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LETTER AND COMMENTS FROM U S EPA REGION IV REGARDING DRAFT GROUP 2
RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION REPORT
NS MAYPORT FL
7/5/1996
U S EPA REGION IV

4WD-FFB

JUL 05 1996

Mr. David Driggers
Code 1852
Southern Division
Naval Facilities Engineering Command
2155 Eagle Dr.
Charleston, S.C. 29418

SUBJ: Naval Station Mayport, Florida
EPA ID# FL9 170 024 260
Draft Group III RFI - EPA Comments

Dear Mr. Driggers:

EPA has reviewed the following document:

- o Draft Group III RFI Report - Naval Station Mayport, ABB Environmental, March 1996

and has enclosed its comments with this letter. If you have any questions, please contact me at 404/347-3555, vmx. 6431.

Sincerely,



Martha Berry
Remedial Project Manager
Federal Facilities Branch

Enclosure

cc: Jim Cason, FDEP
Cheryl Mitchell, Naval Station Mayport
Terry Hansen, ABB Environmental
Frank Lesesne, ABB Environmental
Valerie McCain, Bechtel

**U.S. NAVAL STATION
MAYPORT, FLORIDA
EPA I.D. No. FL9170024260
TECHNICAL REVIEW OF
RFI GROUP III SWMUS REPORT
MARCH 1996**

I. GENERAL COMMENTS

1. There is concern that the groundwater pathway to the St. Johns River may not have been adequately addressed. Contaminant concentrations exceeding the benchmark concentrations have been detected in groundwater samples from monitoring wells located directly adjacent to the St. Johns River. For example, at the Shipyard Area, contaminant concentrations exceeding the benchmark concentrations have been detected in monitoring wells MPT-23-MW04S, MPT-23-MW05, and MPT-45-MW01. At the Carbonaceous Fuel Boiler, contaminant concentrations exceeding the benchmark concentrations have been detected in monitoring well MPT-17-MW03S, and at the Fleet Training Center, contaminant concentrations exceeding the benchmark concentrations have been detected in monitoring wells MPT-14-MW02S, MPT-14-MW01S, MPT-14-MW05S, and MPT-14-MW06S. In each of these examples, no other groundwater monitoring points were located between the wells and the river to substantiate whether the contaminants are migrating off site at concentrations exceeding risk-based levels. Please address this concern.
2. The RFI Report indicates on page 4-33 that the groundwater samples were collected using a peristaltic pump and disposable Teflon® tubing. EPA guidance discourages the use of peristaltic pumps for the collection of VOC groundwater samples. Please explain this deviation from the sampling procedures outlined in the GIR.
3. The RFI Report discusses dilution of groundwater entering the St. Johns River without providing any information on the assumptions used to calculate dilution. Since dilution is used to dismiss iron as a constituent of potential ecological concern in Sections 4.4.4, 5.4.4, and 6.4.4.2, the flow characteristics of the river that will ensure dilution must be discussed. Additionally, explain why it is not suggested that groundwater be resampled to measure the dissolved concentration of iron, rather than simply assuming that the dissolved concentration will be at acceptable levels to ecological receptors.
4. It is not clear what scenario has been used to derive the soil and sediment remedial goal options (RGOs) based on carcinogenicity. Sections 4.3.6.1, 5.3.6.1, and 6.3.6.1 only state that these goals have been derived based on residential or industrial use. It is also not clear whether the residential uses are based on adult or child exposures. Revise the RFI to more clearly describe how the RGOs were developed.

5. Since it is considered possible that the future adult resident might be exposed to contaminated groundwater, explain why it is considered improbable that a child resident would be similarly exposed.
6. Please reference the source of the RBC for iron. The 13,267 $\mu\text{g/L}$ RBC used in the RFI isn't found in the February 9, 1995 Region III RBC tables and it is not the RBC listed for iron in the GIR.

II. SPECIFIC COMMENTS

CHAPTER 3.0, GROUP III SOLID WASTE MANAGEMENT UNIT (SWMUs) PHYSICAL CHARACTERISTICS

Section 3.2.1, Tidal Influence (p. 3-14)

1. The last sentence on page 3-14 states that the tidal effect in the water table zone of the surficial aquifer is limited to areas located less than 330 feet from the shoreline of the St. Johns River at the Shipyard Area, and 400 feet at the Fleet Training Center. However, the hydrograph of the intermediate and deep wells presented as Figure 3-2 suggests that the tidal radius of influence may be more distal in the intermediate and deep portions of the aquifer. Please provide a discussion/evaluation in the revised Group III RFI Report of the larger tidal influence in the intermediate and deep portions of the aquifer and any potential impact of this tidal influence with regard to contaminant fate and transport.

Section 3.2.3, Table 3-13 (p. 3-30)

2. Table 3-13 apparently contains several errors. The cm/sec values reported in the table do not properly equate with the ft/day values reported. For example, a value of 0.00000008 cm/sec is equivalent to 0.00023 ft/day, not 0.007 ft/day as reported in the table. Likewise, 0.00024 cm/sec is equivalent to 0.68 ft/day, not 20.7 ft/day. Furthermore, the text in the paragraph immediately preceding the table states that the average of the two hydraulic conductivity values was calculated to be 0.9 ft/day. The arithmetic average of 0.007 and 20.7 is 10.4 ft/day rather than 0.9 ft/day. Please provide the corrected values to Table 3-13 in the revised Group III RFI Report.

Section 3.2.4, Table 3-14 (p. 3-31)

3. Table 3-14 apparently contains several errors. The estimated linear groundwater flow rate values reported in column D are incorrect for all of the values reported at the Shipyard Area and the Carbonaceous Fuel Boiler. For example, the estimated linear groundwater flow rate for well MPT-1-MW01S at the Shipyard Area should be 0.05

ft/day instead of 0.02 ft/day. Furthermore, the estimated linear groundwater flow rate for well MPT-17-MW02S reported in column E should be 34 ft/year instead of 35 ft/year. Please provide the corrected values to Table 3-14 in the revised Group III RFI Report.

Section 3.2.4, Groundwater Flow Velocity (p. 3-32)

4. The last paragraph on page 3-32 states that the "values for the vertical linear groundwater flow rate are likely similar to the horizontal linear groundwater flow rates in the Shipyard Area." However, this is not supported by either the text or the data presented in the previous sections of the RFI Report. The statement implies that the horizontal and vertical flow rates are similar at the Shipyard Area. However, the report states on page 3-28 that "the wide range of conductivity values is likely a reflection of the heterogeneity of the fine- to coarse-grained dredge materials that comprise the shallow aquifer." Page 3-30 further states that "the vertical hydraulic conductivity has the potential of being several orders of magnitude less than the horizontal radial hydraulic conductivity values where fine-grained materials predominate." These latter statements indicate that the soils beneath the facility are vertically heterogeneous, and because of this heterogeneity, are characterized by vertical hydraulic conductivity values several orders of magnitude less than the horizontal hydraulic conductivity. Please provide clarification in the revised Group III RFI Report of the relationship between the vertical and horizontal hydraulic conductivity values.

CHAPTER 4.0, THE SHIPYARD AREA, SWMUs 1, 23, 24, 25, 44 AND 45

Section 4.2, Findings (p. 4-34)

5. The first paragraph states that "groundwater is discussed last to assess whether or not target analytes have migrated beyond the boundaries of the industrial Shipyard Area." However, the section on groundwater results (Section 4.2.5, pages 4-87 through 4-112) discusses the analytes detected in the groundwater and whether the detections exceed the benchmark concentrations, but does not present any evaluations or conclusions regarding whether the constituents detected in the groundwater were released from the SWMUs in the Shipyard Area. The text does state (page 4-112) that the occurrence of antimony, vanadium, copper, lead and nickel, and possibly manganese and arsenic "suggests that a release to the environment has occurred." The text does not, however, discuss the origins of the VOC and SVOC detections. Please provide greater discussion in the revised Group III RFI Report of the origins of the contaminant detections.

CHAPTER 5.0, SWMU 17 - THE CARBONACEOUS FUEL BOILER

Section 5.2.1.1, Organics (p. 5-6)

6. The RFI text states that benzo(a)pyrene was detected in 3 of the 15 samples and exceeded FDEP and U.S. EPA benchmarks for residential exposure in 2 samples. Furthermore, Table 5-4 (page 5-15) indicates that the frequency of benzo(a)pyrene detections above risk-based screening concentrations is 2/15, while Table 5-3 (page 5-12) indicates that the maximum concentration was detected in soil sample 17S00801 (MPT-17-SS08). However, Table 5-1 (pages 5-7 and 5-8) does not report the analytical results for sample MPT-17-SS08. Please provide the missing information in the revised Group III RFI Report.

Table 5-4, Comparison of Concentrations Detected in Surface Soil Samples at SWMU 17 (p.5-16)

7. Footnote 2 indicates that background screening concentrations are calculated for inorganic constituents only; yet a background screening concentration of 2.3 µg/kg for the organic constituent 4,4-DDE is provided.

Section 5.2.1.1, Organics (p. 5-18)

8. The RFI text states in the second paragraph on page 5-18 that a likely source for the benzo(a)pyrene and dibenzo(a,h)anthracene is residues from vehicle exhaust and/or engine fluids on the parking lot of the Carbonaceous Fuel Boiler. To support this assertion, the RFI Report should present the analytical results for surface soil samples MPT-17-SS07 and MPT-17-SS09 (which are not included in Table 5-1) and provide a discussion of the concentrations of the constituents detected in these samples. Please provide the missing information and associated discussion in the revised Group III RFI Report.

Section 5.2.3.2, Organics (p. 5-32)

9. The RFI Report states in the fifth paragraph that the occurrence of bis(2-ethylhexyl)phthalate in the groundwater samples "is related to field or laboratory contamination and is not related to a release from SWMU 17." Since this contaminant was also present in the groundwater sample MPT-17-MW01S, please explain how it was determined to be a field or laboratory contaminant.

CHAPTER 6.0, SWMUs 14 AND 18 - MERCURY/OIL WASTE SPILL AND FLEET TRAINING CENTER (FTC) DIESEL GENERATOR SUMP

Section 6.2.4.1, Figures 6-5, 6-6, 6-7, and 6-8 (pgs. 6-57 to 6-60)

10. Figures 6-5, 6-6, 6-7, and 6-8 illustrate the orientation of various groundwater contaminant plumes present beneath the Mayport facility. Each plume appears to be most concentrated at monitoring well MPT-14-MW09 and generally tapers in concentration toward the northeast. The concentration gradient reduction to the northeast would normally be expected with a groundwater flow direction to the northeast. However, the groundwater flow patterns described in the text and illustrated in Plate 1 indicate that groundwater flows to the north or northwest in the vicinity of the Fleet Training Center. Please provide a discussion in the revised Group III RFI Report of the contaminant distribution patterns observed at the Fleet Training Center and indicate how these patterns resulted given the observed groundwater flow directions.

Section 6.2.4.2, Groundwater Samples from Monitoring Wells (p. 6-70)

11. In the third paragraph on page 6-70, the RFI Report describes the lack of correlation observed between the field screening samples and the groundwater samples collected from the monitoring wells in the Fleet Training Center. If the lower contaminant concentrations observed from the monitoring wells were the result of longer well screens as discussed in the RFI Report, the monitoring well samples may not adequately characterize the groundwater present beneath the Fleet Training Center (i.e., the maximum concentrations may not be detected). Please provide a discussion in the revised Group III RFI Report of what procedures will be instituted to ensure that the groundwater samples collected from the monitoring wells will adequately characterize the contaminants present beneath the Fleet Training Center.

Table 6-25, Selection of Human Health Chemicals of Potential Concern, Surface Water Associated with SWMUs 14 and 18 (p. 6-79)

12. Please explain in greater detail why iron has been eliminated from consideration as a chemical of potential concern. Iron in groundwater at SWMUs 14 and 18 is selected as a constituent of potential concern. Also, explain why iron in the surface water is attributed to tidal influences rather than from a discharge of groundwater or surface runoff.

CHAPTER 7.0, CONCLUSIONS AND RECOMMENDATIONS

Section 7.1.1, Human Health Risk Assessment (p. 7-4)

- 13 For clarity, the conclusions section of the RFI report for the Shipyard Area SWMUs should indicate that future land uses that might result in contact with contaminated sludge were not considered in the report. However, as stated on page 4-143, funding concerns may prevent the sludge from being remediated. A statement should be added to Section 7.1.1 that if the sludge is not remediated, then human health risks for future land uses must be addressed.

Section 7.2, The Carbonaceous Fuel Boiler, SWMU 17 (pgs. 7-9 and 7-10)

14. Revise the RFI report to state whether or not the data validation effort supports the conclusion that the high bis(2-ethylhexyl)phthalate detected in one groundwater sample is due to field or laboratory contamination. Tables 5-3 and 5-11 indicates that bis(2-ethylhexyl)phthalate was detected in 3 of 15 soil samples and 2 of 3 groundwater samples. This would suggest that contamination of environmental media by this constituent has occurred at SWMU 17. If the data validation effort does not support rejection of the high groundwater sample result, then explain why resampling of the well (including collection of appropriate field and laboratory quality assurance/quality control samples) is not suggested as a follow-up activity.
15. Detected levels of bis(2-ethylhexyl)phthalate, iron, and manganese in groundwater and detected levels of benzo(a)pyrene, dibenz(a,h)anthracene, arsenic, and beryllium in soil at SWMU 17 appear to be high enough to warrant calculation of RGOs. Therefore, the statement that there does not appear to have been any significant release of chemicals at SWMU 17 should be removed or more thoroughly justified.

Section 7.3.3, Recommendations (p. 7-21)

16. The Section 7.3.3 discussion of sediment results does not address the pesticides in the tidal pool area that were determined to be of ecological concern (see Table 6-43). Please explain why the RFI report does not recommend that the high levels of pesticides be addressed as part of future corrective action activities at the site.